

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
28 April 2005 (28.04.2005)

PCT

(10) International Publication Number
WO 2005/039189 A1

(51) International Patent Classification⁷: **H04N 7/26, 5/262**

(21) International Application Number:
PCT/US2004/033713

(22) International Filing Date: 12 October 2004 (12.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/511,026 14 October 2003 (14.10.2003) US

(71) Applicant (for all designated States except US): **THOMSON LICENSING S.A.** [FR/FR]; 46, Quai A. Le Gallo, F-92100 Boulogne-Billancourt (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BOYCE, Jill, Mac Donald** [US/US]; 3 Brandywine Ct., Manalapan, NJ 07726 (US). **GOMILA, Cristina** [ES/US]; 25C Chestnut Court, Princeton, NJ 08540 (US). **LLACH, Joan** [GR/US]; 25C Chestnut Court, Princeton, NJ 08540 (US). **TOURAPIS,**

Alexandros [GR/US]; 20212 Heather Drive, West Windsor, NJ 08550 (US). **COOPER, Jeffrey, Allen** [US/US]; 11 Toth Lane, Rock Hill, NJ 08540 (US). **YIN, Peng** [CN/US]; 65 Warwick Road, West Windsor, NJ 08540 (US).

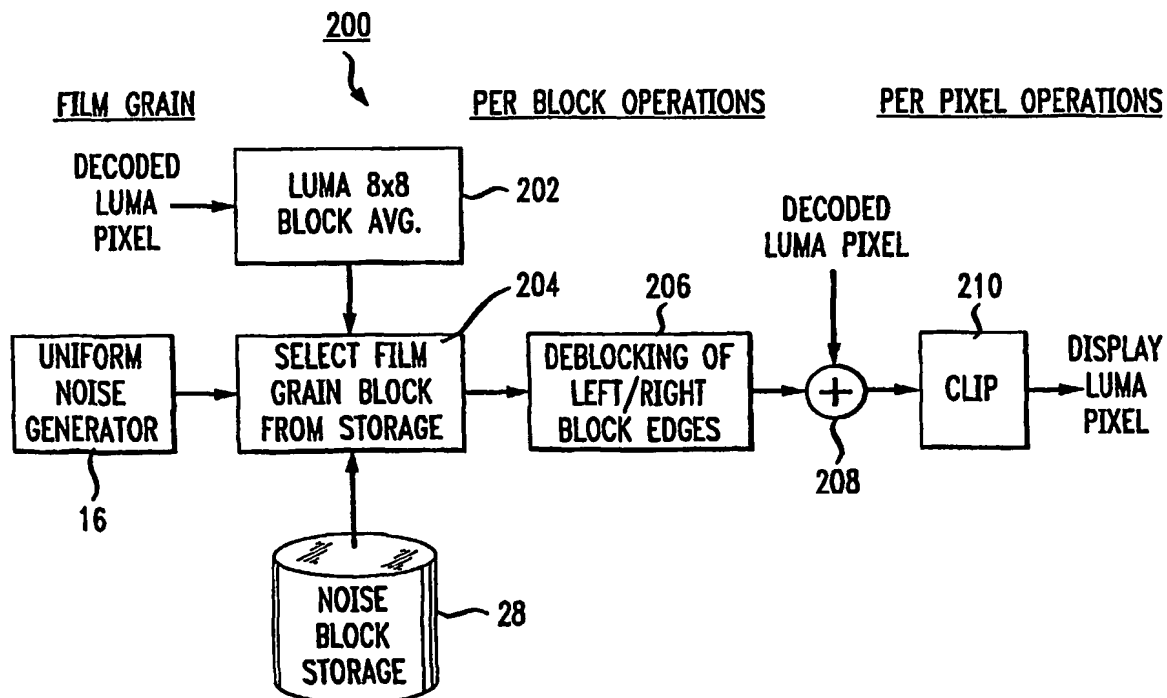
(74) Agents: **TRIPOLI, Joseph, S. et al.**; Thomson Licensing Inc., 2 Independence Way Suite 2, Princeton, New Jersey 08540 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: **TECHNIQUE FOR BIT-ACCURATE FILM GRAIN SIMULATION**



(57) Abstract: The simulation of film grain in an image makes use of parameters contained in a Supplemental Enhancement Information (SEI) message that accompanies the image upon transmission. The SEI message specifies film grain simulation parameters such as the film simulation model, the blending mode, and color space.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.